

**Summary**  
**Vegetation MOU Work Group**  
**April 18, 2002**

**A. Vegetation Classification**

The subgroup on classification reported on their progress in relating several vegetation types across different classification systems. Their conclusion is that the different systems have similar enough classification standards that they can be related in a mapping context. There were more similarities than differences in the few vegetation groups they reviewed.

The group agreed that we want to eventually arrive at using NVCS as a common standard. At present, the NVCS is behind classification efforts in California. Both Hazel and Todd think that NVCS will change as new data is developed.

See Todd's attached notes summarizing their findings.

Until NVCS is current, we need to develop a mapping standard crosswalk between existing systems. Due to the similarities among systems, we don't see a need to change current mapping classifications at this time. However, some classifications are coarser than others and they may need to adjust the type of information currently captured so that the data can readily be classified by other systems.

Our proposed next steps are as follows:

1. DFG needs to finish the MCV qualitative rules (Todd and Julie - can use some student assistance)
2. Have student finish compiling the crosswalk rules table for all vegetation types. The subgroup will need to make some minor adjustments to the table based on today's meeting first. The table will be reviewed by the group.
3. Have student also develop a table that links specific vegetation type names between systems (one to many relationships chart)
4. Managers of each classification system will use this information to consider adjusting their map unit design for significant differences, where possible.
5. Mapping rules will be marketed to other vegetation mapping efforts to encourage them to use these standards.

This effort will require a student to work for about 6 months, with a cost of perhaps \$10-15K. Jeff will check for options at UCD and Marc will check for other options.

If we can't find student help, the effort will go substantially slower and staff will have to fit it in to their existing workload (ugh)

**B. Map Unit Design**

We made some changes to the map unit design matrix and Marc will update and send out.

Brian Schwind will give us a draft set of Core attributes, based on FS work. He will send it out by April 27 for the group to review. All of us will be responsible for providing Brian with comments by May 22. We will discuss at our next meeting.

### **C. Non Natural Vegetation Cover**

We decided that we would all try to map non-natural vegetation using the following steps:

1. First map all map units to a natural vegetation classification system.
2. For areas that cannot be classified by natural vegetation, these units should be mapped to a land cover type such as water, barren, grass, shrubs, or trees. We don't want to mix land use categories (agriculture, residential, etc) in this data set.

Dave Hansen and Molly Penberth have developed a non-natural vegetation classification crosswalk already. They will adjust this and share it with the group by May 22. They will keep the classification coarse enough to accommodate frequent land use/crop changes.

### **D. Web site**

Mark Rosenberg will add meeting minutes and classification system descriptions to the web site

### **E. Next meeting**

May 29, 9-noon WHDAB, 1807 13<sup>th</sup> Street, Sacramento

Draft agenda:

1. Classification crosswalks (updated on student staffing, improved table design for student)
2. Map Unit Design - discuss core attributes, review FS information
3. Non-Natural Vegetation - review Dave/Molly's crosswalk table
4. Web site - update on progress
5. Vegetation Map Catalog – Jeff Kennedy

# ATTACHMENT ONE

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## **Summary Meeting with Vegetation MOU subgroup on crosswalking between WHR, CALVEG, MCV, and NVCS classifications March 27, 2002**

Present: Todd Keeler-Wolf, Hazel Gordon, Jeff Kennedy, Julie Evens, Monica Parisi

### **Summary of the prototype crosswalking.**

Vegetation classifications dealt with: WHR, CalVeg, MCV, NVCS

We set up a spreadsheet to compare the three general vegetation types we were looking at; aspen, black oak, and white fir. We quickly realized we needed a mixed aspen, mixed black oak, and mixed white fir category along with the pure names, as all classifications investigated have stands with a large component of these species that may be named in other terms (e.g., whr montane hardwood-conifer, or coastal oak woodland).

### **General notes on interpretation of cover threshold classifications:**

- 1) Whr rule for trees 10% or > of live canopy conifer and hardwoods are required (because all trees)
- 2) Calveg 10% of canopy on image either conifer or hardwood (bias towards conifers then hardwood) .
- 3) NVCS 25% threshold based on the dominant overstory tree (25% woodland and 60% forest threshold existing in the 1997 fgdc document, esa and nvcs (Natureserve) is still evolving) General rule for layer dominance is 10% or greater by layer.
- 4) In CA with the MCV we are working with more open systems and going down to 10% or even 5% in overstory trees, now incorporated in NVCS. General rule is 10% or greater by layer for layer dominance

### **Overstory v. understory:**

- 1) WHR considers different habitats depending on overstory and understory trees  
e.g. Pinus jeffreyi habitat with Populus tremuloides understory as the dominant

\*Monica will investigate ramifications

### **Particular Issues by type:**

**Aspen:** There are mixes in all classifications. WHR and CalVeg are both strictly dominance based for pure types (>50% rel cover of aspen in overstory). MCV and NVCS are more variable. MCV allows as low as 30% relative cover of aspen with other overstory trees (either conifer or hardwood, NVCS allows co dominance by broadleaf trees and up to 25% relative cover of conifers). MCV calls all pure and mixed types "aspen alliance" NVCS defines mixed type alliances as well as aspen alliance. CalVeg allows for down to 20% rel. cover in mixed conifer or hardwood-aspen types thus is pretty close to mcv and nvcs. Could translate from broad mcv aspen to calveg mixed aspen cover types. Same with nvcs. WHR has a more strict by-layer definition and considers trees like Pinus jeffreyi to be overstory with aspen as understory. In such cases aspen can have more cover than the taller conifer, but still not be considered aspen type.

**General Conclusion:** mcv and calveg could choose either 20 or 30% relative cover as threshold or compromise at 25%. Some calveg types could be mapped as "sub alliance mapping units" of mcv. WHR may defer to mapping classifications because WHR is not a mapping classification, but could develop translation in case when jeff reyor other pines are taller, but less cover than aspen.

**Black Oak:** WHR has no pure black oak type, it's a component of Montane hardwood or montane hardwood conifer. MCV "pure" type is >30% black oak rel. cov. for black oak type and >10% rel. cover for mixed oak types. MCV identifies a Ponderosa pine-black oak alliance separately with either species >30% rel. cover in tree layer.

NVCS is poorly defined and reliant upon mcv for rules. CalVeg also montane hardwood/conifer type with very similar rules to WHR (20% rel cover compared to 25% for whr). MCV could go to 25% rel. cover instead of 30% to make translation easier.

**General Conclusion: mcv and calveg could decide between 30% or 20% relative cover threshold or compromise at 25%, which is whr threshold for montane hardwood conifer. MCV would have broader alliance definition except for p. ponderosa-black oak, while calveg and whr would maintain either mixed or mixed and pure types.**

**White Fir:** For “pure type” all classifications except nvcs require at least >50 % rel cover. WHR lowest while calveg most stringent (>75% rel. cover). NVCS requires codominance for forest alliance, for woodland alliance requires < 60% absolute cover in tree layer, but this is largely based on non-California data. For Mixed types NVCS identifies wf-douglasfir, wf-red fir alliances where codominance is not strictly defined. General conclusion is that in CA white fir has to be strongly dominant for type to be defined (mcv, calveg). Mixed types get their own names at either alliance or association level.

**General Conclusion: Both CalVeg and MCV are fairly narrow in requirements of strong dominance. Could choose between >60% or >75% for threshold for mapping purposes. WHR has less restrictions and would throw many considered mixed types (e.g, red fir-white fir, or mixed conifer-fir) into white fir type. Suggest using agreed upon rules for mapping by calveg and mcv.**

**Summary of ease of translating between types:** Group consensus was that although we picked relatively difficult cases (intentionally), we found common threads between classifications. General rules were based on dominance by layer and general rules were largely equivalent (dominance >50% relative cover, layer dominance 10% or greater). Although naming conventions were different in some cases, there were generally recognized threshold values that could be used as translation points (e.g, a mixed type in calveg or whr might be included by a pure type in MCV). However, translation is easy because the mapping classifications for calveg and whr could be considered sub alliances or mapping units of sub alliances in the mcv or NVCS. The MCV is based more on quantitative analysis of plot data for threshold values, while calveg and whr are more operationally defined by discernable proportional mixes. For example, in White fir MCV defined a mixed white fir and red fir alliance based on plot analysis of over 350 plots in Yosemite and came up with a minimum cover of 15% for either tree to make the specifications for the definition.

In some cases the difference is only 5% (e.g., Black oak calveg versus black oak mcv, see above) and we would be willing to compromise to make ends meet in such cases.

NVCS is behind the curve with no published changes since 1997. Those “in the know” in our group suggest that the NVCS will publish differences based on the quantitative analysis of data inducted into local systems (like MCV revisions).

WHR is not a mapping classification and Monica would defer to other mapping classifications and make translation through crosswalk.

The general conclusion is that mapping and field based classifications can be related. Suggest that part time help be hired to assist with translation of types.

| classification comparison | 3/27/2002   |   |  |  |  |   |
|---------------------------|---|---|--|--|--|---|
|                           | Aspen (Potr)  | aspen mixed types (White fir = Abco, Jeffrey Pine = Pije)<br>Pije habitat may have a high component of understory Potr (most stands 40-70% absolute cov Pije, but Potr may be up to 100% absolute cov) but not identified as an aspen type  | Black Oak (Quke)   | Black oak mixed types (Incense cedar = Cade; Ponderosa pine - Pipo; Oregon oak = Quga)   | White fir (Abco)   | White Fir Mixed Types (Douglas-fir = Psme; Red fir = Abma; Lodgepole pine = pico; Jeffrey pine = pije)  |
| WHR                       | Aspen habitat >50% rel cover (rel cover of overstory)   |   | no pure type   | component of montane hardwood and coastal oak woodland habitats (>50% hardwood and < 25% conifers), or montane hardwood/conifer (>50 hardwood and 25-49% conifer)  | White fir habitat: > or = 50% rel cover  | Sierran mixed conifer habitat (geographically defined, other conifers at least 5%, < 50 % Abco present or not at all), Klamath mixed conifer habitat (see above parentheses)  |
| CALVEG                    | Potr type >=50% aspen cover (rel cover of overstory)  | Mixed conifer or hardwood/aspen type with as low as 20% rel. cover aspen (w jeff pine, lodgepole, white fir, red fir, mixed conifer, willow-aspen); Mixed riparian hardwood type with no clear dominant (w aspen, willow, black cottonwood) | > or = 50% black oak rel cover   | mixed conifer/hardwood type with as low as 20% black oak rel cover; mixed hardwood type with no clear dominant (with black oak, madrone, tanoak, white oak, blue oak, live oaks, etc)  | White fir pure type: > or = 75% rel cover  | Psme-Abco and Pipo-Abco type (Psme or Pipo at least 50% and White fir at least 20% rel cover); Abma-Abco type (rel cover > or = 75% for both spp but Abco > Abma); Mixed conifer-fir (Abco a/o Abma rel cover > or = 20% and Pije a/o Pico >1%)   |
| MCV                       | Potr alliance >30% aspen cover (rel cover of overstory) aspen absolute cov can be as low as 5%                              | mixes of Potr with jeff pine, lodgepole, white fir, red fir which can share dominance down to 30% rel cover of aspen  | Quke alliance: >30% black oak rel cover (can be mixed and codominant with ca bay, buckeye, live oaks, doug fir, incense cedar, pines, white oaks, etc) | Pipo-quke alliance (either species with at least 30% rel cover); Mixed oak alliance (black, blue, coast and interior live, white, valley oaks important - each >10%), Pipo-Cade/Quke forest assn (either conifer can dominate, oak in low cover) | White fir alliance: strong dominance of Abco >60% rel cover  | Abco-Abma alliance (both >15% rel cover, either may dominate) Abco-Pila alliance (Pila at least 5%, though either can be dominant and >60% total tree cover for "forest" is not constant); Abco-Psme alliance (both important, >10% rel cover); Pije-Abco alliance (Pije dominants, Abco important) |
| NVCS                      | Potr forest alliance 40-100% absolute cover (conif could contrib up to 25% REL COV and other broadleaf trees can be co-dom) | diff alliances include abco-potr forest alliance and pico-potr seasonally flooded forest alliance: either aspen or conifer could dominate ranging from 25-100%  | Quke temporarily flooded alliance ?  | Quga-Quke/Todi assn., Mixed oak alliance (see MCV above)   | White fir forest alliance (Abco codominant with 25-60% absolute cov, other conifers present); White fir woodland alliance (<60% absolute cov in tree layer), | White fir giant forest alliance (Abco-Psme), Abco-Abma forest alliance. Co dominance not defined  |
|                           | as low as 5% absolute cover for aspen   | can have red fir or other conifers dominating but still considered an aspen type  |  |  |  |   |